

Split 1/2

Send Ins 23, 2017

Work Order ID 154461 - 1

\*154461\*

Page 1

Tuesday, December 13, 2016 9:02:20 AM

Item ID: 647.7711

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Strut Tube

Start Date: 1/3/2017 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 1/11/2017 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals: Process Plan: US Date: 12/12/16 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
|----------|--------------|

|          |    |
|----------|----|
| 647.7700 | A2 |
|----------|----|

110

0.00

\*110\*

Mill Conv

Memo

Conventional Milling Machine

1- CUT AS PER DWG  
 2- Mill end of tube as per dwg  
 3- DEBURR AS PER DWG

0.00

DAS  
32  
9-89

16-12-18

120

QC6- Inspect dimensions to drawing

0.00

\*120\*

QC

Memo

Quality Control

0.00

④ 16-12-19

DAS  
9  
9-89

130

Identify as per dwg & Stock Location: WA008 0.00

\*130\*

Packaging

Memo

Packaging

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

0.00

④ DEC 21 2016

DAS  
6  
9-89

**Work Order ID 154461**

Tuesday, December 13, 2016 9:02:20 AM

**\*154461\***

Page 2

Item ID: 647.7711

Accept

**\*N900040100\***

Setup

Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Strut Tube

Start Date: 1/3/2017 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 1/11/2017 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run

Start

**\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                    | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty     | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---------------------------------------------|----------------------|---------|--------|--------------|---------------|-------------------|------------------|----------------|
| 140                            | QC21- Final Inspection - Work Order Release | 0.00                 |         |        |              |               |                   |                  |                |
| <b>*140*</b>                   |                                             |                      |         |        |              |               | DAS<br>21<br>9-89 | DEC 21 2016      |                |
| QC                             | Memo                                        | 0.00                 |         |        |              |               |                   |                  |                |
| Quality Control                |                                             |                      |         |        |              |               |                   |                  |                |

DAS  
21  
9-89

DEC 21 2016

# Picklist Print

Tuesday, December 13, 2016 9:02:25 AM

Page 1

Work Order ID: 154461

**\*154461\***

Parent Item: 647.7711

**\*647 7711\***

Parent Item Name: Strut Tube

Start Date: 1/3/2017

Required Date: 1/11/2017

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 12.11.06 NEW ISSUE DD VERF:JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M4130NT0.500W.083               |                        | Purchased     | No          |                     |                  | 110             | f                  | 19.8331        | 1.816       | 11.46947     |               |                |        |

**\*M4130NT0 500W 083\***

4130 RD tube .500 x .083W

**\*\***

16-12-16 IC-L

Location

Loc Qty

Loc Code

MAT032

19.8331

M136243

0.0001

M136323

19.833

10.8511

|                                                |                     |                    |
|------------------------------------------------|---------------------|--------------------|
| <b>DART AEROSPACE LTD</b>                      | <b>Work Order:</b>  | 15461              |
| <b>Description:</b> Strut Tube                 | <b>Part Number:</b> | 647.7711           |
| <b>Inspection Dwg:</b> 647.7700 <b>Rev:</b> A2 |                     | <b>Page 1 of 1</b> |

# INSPECTION SHEET

[illegible]

|                   |                  |               |
|-------------------|------------------|---------------|
| Measured by: J.C. | Checked by: 9.89 | QC Inspector: |
| Date: 16-12-16    | Date: 16-12-22   | Date:         |

|                                                |  |              |  |
|------------------------------------------------|--|--------------|--|
| <b>Engineering Approval:</b><br>(If necessary) |  | <b>Date:</b> |  |
|------------------------------------------------|--|--------------|--|

| Rev | Date     | Change          | Revised by | Approved                                                                              |
|-----|----------|-----------------|------------|---------------------------------------------------------------------------------------|
| A   | 15.11.19 | New Issue       | KJ         |  |
| B   | 16.05.27 | Dwg Rev updated | KJ         |  |





APICAL INDUSTRIES, INC.  
dba DART AEROSPACE

TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05397

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED BY

T. CROSS

DATE: 05/02/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT ORDER

REASON: REVISED DIMENSION

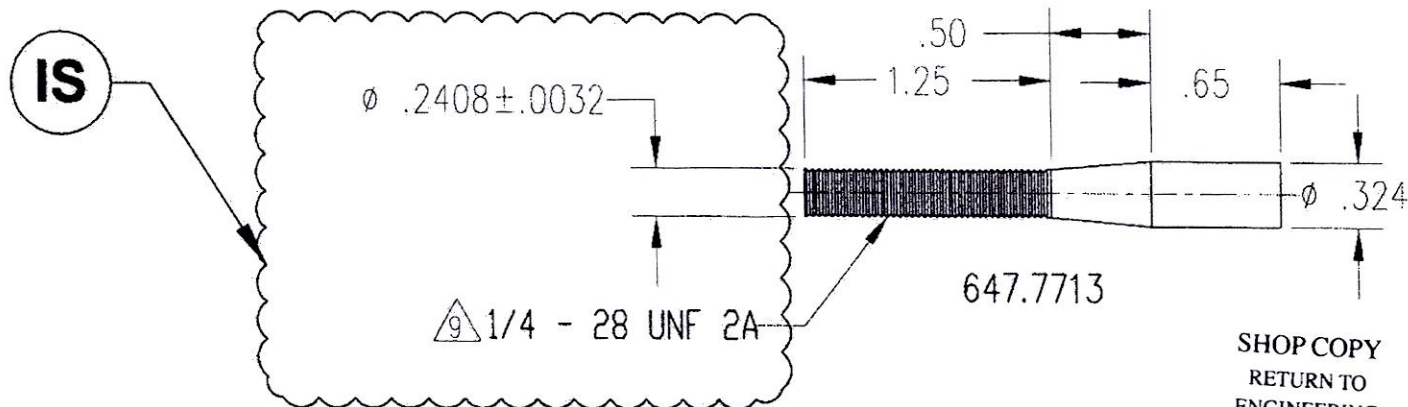
ECR:

16-028

ACTION LIST:

1.

SHEET 2, ZONE D4 IS:



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 154461

DOCUMENTS EFFECTED:

☐ PATTERN

☐ MDL

☐ INSTALL INSTRU

☐ ICA

☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO



APICAL INDUSTRIES, INC.  
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05110

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED  
BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG  
☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR *[Signature]*

MFG

*[Signature]*

QC

*[Signature]*

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

SHEET 1, NOTES IS:

ACTION: UPDATE MO & WO

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES
- 6 IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

| F/N                                                                                                                                                                                   | TC | PART NUMBER | QTY | DESCRIPTION | MATERIAL/SPECIFICATION                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------|-----|-------------|------------------------------------------------------------------------------|
| DOCUMENTS EFFECTED: <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUCTIONS <input type="checkbox"/> ICA <input type="checkbox"/> FMS <input type="checkbox"/> BOM |    |             |     |             |                                                                              |
| CHANGE CATEGORY <input type="checkbox"/> MAJOR <input type="checkbox"/> MINOR                                                                                                         |    |             |     |             | DER REVIEW REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO |

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# NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337 J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES
- 6 IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219, TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
- 9 MASK THREAD PRIOR TO FINISH

| REVISIONS |                             |          |          |
|-----------|-----------------------------|----------|----------|
| REV       | DESCRIPTION                 | DATE     | APPROVED |
| 1         | LAST PRODUCTION REVISION #1 |          | NIC      |
| 2         | INITIAL RELEASE             | 12/02/09 | P BRAVO  |
| 3         | INCORPORATED COMMENTS       | 11/13/14 | P BRAVO  |

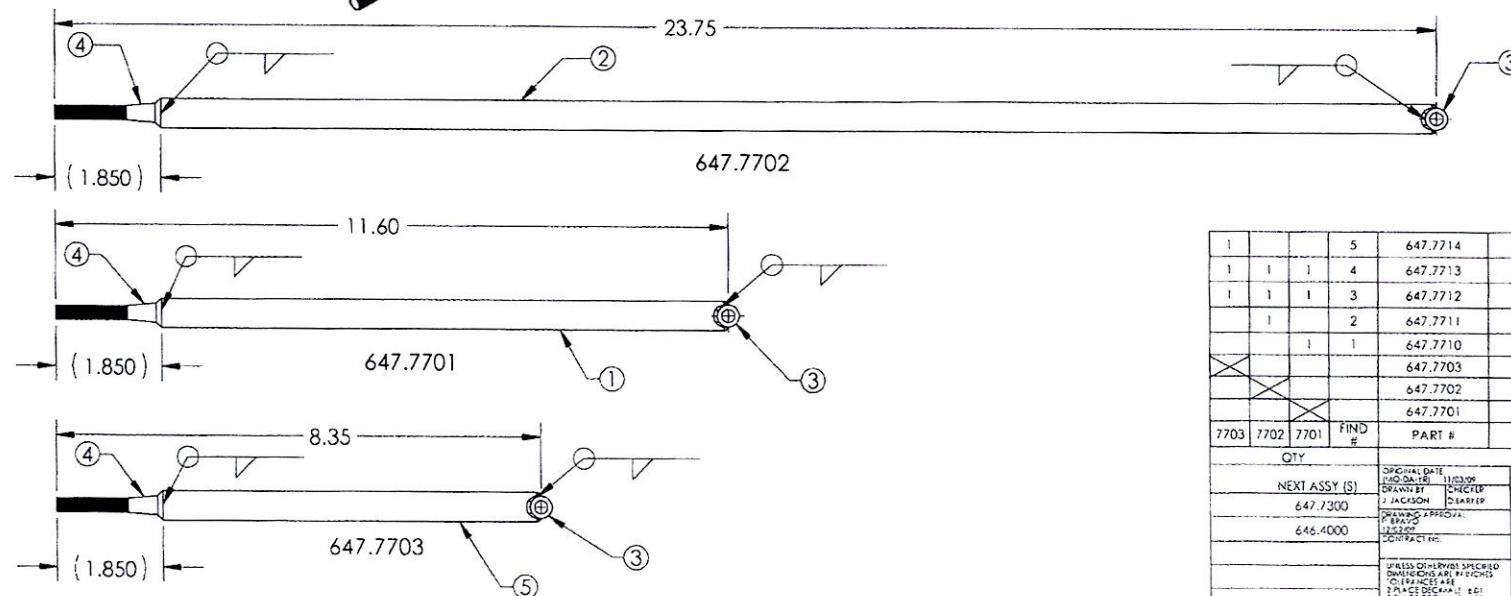
647.7701

647.7703

647.7702

UNINCORPORATED ECN(s)

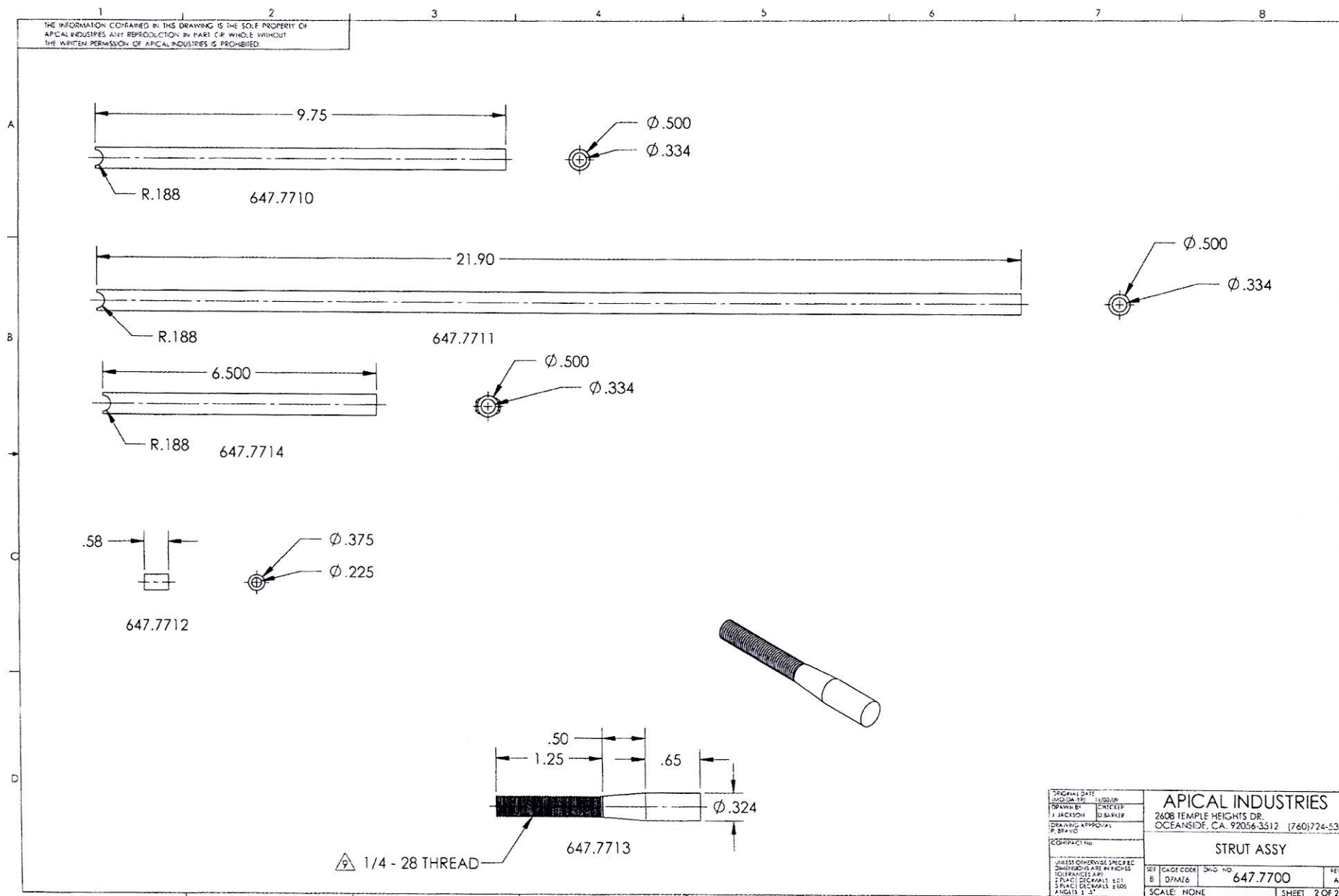
05/10, 05397,



|               |      |      |        |                            |              |                                                                                                |       |
|---------------|------|------|--------|----------------------------|--------------|------------------------------------------------------------------------------------------------|-------|
| 1             |      |      | 5      | 647.7714                   | STRUT TUBE   | △                                                                                              |       |
| 1             | 1    | 1    | 4      | 647.7713                   | STRUT THREAD | △                                                                                              | △     |
| 1             | 1    | 1    | 3      | 647.7712                   | STRUT TUBE   | △                                                                                              |       |
|               | 1    |      | 2      | 647.7711                   | STRUT TUBE   | △                                                                                              |       |
|               |      | 1    | 1      | 647.7710                   | STRUT TUBE   | △                                                                                              |       |
|               |      |      |        | 647.7703                   | STRUT ASSY   |                                                                                                | △ △   |
|               |      |      |        | 647.7702                   | STRUT ASSY   |                                                                                                | △ △ △ |
|               |      |      |        | 647.7701                   | STRUT ASSY   |                                                                                                | △ △ △ |
| 7703          | 7702 | 7701 | FIND # | PART #                     | DESCRIPTION  | MAT'L                                                                                          | SPEC. |
| QTY           |      |      |        | PARTS LIST                 |              |                                                                                                |       |
| NEXT ASSY (S) |      |      |        | ORIGINAL DATE              | 11/03/09     | <b>APICAL INDUSTRIES</b><br>2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |       |
| 647.7300      |      |      |        | DRAWN BY                   | J JACKSON    |                                                                                                |       |
| 646.4000      |      |      |        | CHECKED BY                 | CLARKER      |                                                                                                |       |
|               |      |      |        | DRAWING APPROVAL           |              |                                                                                                |       |
|               |      |      |        | CONTRACT NO.               |              |                                                                                                |       |
|               |      |      |        | UNLESS OTHERWISE SPECIFIED |              | <b>STRUT ASSY</b><br>647.7700                                                                  |       |
|               |      |      |        | DIMENSIONS ARE IN INCHES   |              |                                                                                                |       |
|               |      |      |        | TOLERANCES ARE             |              |                                                                                                |       |
|               |      |      |        | 3 PLACE DECIMALS ± .001    |              |                                                                                                |       |
|               |      |      |        | ATTACHES 1 5"              |              |                                                                                                |       |
|               |      |      |        | SCALE                      | NONE         | SHEET 1 OF 2                                                                                   |       |



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|                                                                                                                                                       |  |                                                                                                |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------|-----------|
| ORIGINAL DATE<br>(DD/M/YY)<br>11/02/00<br>DRAWN BY<br>J. JACKSON<br>ID BAKER<br>DRAWING APPROVAL<br>P. BAYO<br>CONTRACT NO.                           |  | <b>APICAL INDUSTRIES</b><br>2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |           |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>1. FRACTIONS DECIMALS ±.01<br>2. PLACES DECIMALS ±.005<br>3. ANGLES ±.5° |  | SET   CAGE CODE   DWG. NO.<br>5   079A26   <b>647.7700</b>                                     | REV.<br>A |
| SCALE: NONE                                                                                                                                           |  | SHEET 2 OF 2                                                                                   |           |